

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-212036

(43)Date of publication of application : 02.08.2000

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(51)Int.Cl.

A61K 7/00  
A61B 5/00  
A61B 5/107  
G01N 33/50

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(21)Application number : 11-015070

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(22)Date of filing : 25.01.1999

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(54) SELECTION OF COSMETIC

(57)Abstract:

PROBLEM TO BE SOLVED: To objectively and readily select a proper beautifying and whitening cosmetic by using the existing state of melanin and the irregular color of skin as indices.

SOLUTION: A cosmetic such as a beautifying and whitening cosmetic is selected by using the existing state of melanin and the irregular color of skin as indices. The existing state of the melanin is preferably indicated by the amount of the existing melanin in keratinocytes and nonuniformity of the existence in the keratinocytes and the discrimination of the existing state of the melanin is preferably carried out by a method, etc., for collecting the keratinocytes on, e.g. a tacky disk, transferring the collected keratinocytes onto a transparent tacky tape, staining the keratinocytes with silver nitrate and gentian violet, washing the resultant specimen with water, drying the washed specimen, casting a transparent silicone agent thereonto so as to cover only the stained part, providing a sample and observing the prepared sample under a microscope. The evaluation of the irregular color is preferably conducted by using irregular color models prepared by computer morphing and comparing the irregular color models with an irregular color model photograph. The selected cosmetic is preferably a basic cosmetic and the evaluation weighting ratio as the indices is preferably 0.6-0.8 irregular color for 0.2-0.4 existing state of the melanin.

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2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the suitable sorting by selection of cosmetics for selection of basic cosmetics etc.

[0002]

[Description of the Prior Art] a color -- being white -- as there is the word 7 "\*\*\*\*\*", maintaining the beautiful white skin is that everyone wishes and does not stop, if it is a woman. For this reason, the whitening material for various cosmetics is developed. As such a whitening material, an ascorbic acid, the derivative and a glutathione, the derivative and hydroquinone, its derivative, various crude drug extractives, etc. have been developed until now, for example. Moreover, it is also known that many steps are found out as a mechanism to which the color of the skin becomes black, tell generation inhibition of melanin to a mouthful, and many mechanisms exist. For this reason, the class of whitening cosmetics is going up to the number huge now. Therefore, what is going to use whitening cosmetics did not have being bewildered [ little ] by choosing which whitening cosmetics are the whitening cosmetics suitable for oneself. That is, a selection means of whitening cosmetics to have been suitable for the exact individual was desired. Furthermore, although extent of this coloring matter trouble was subjectively judged by viewing in many cases, the present condition was that how to judge this objective is not learned yet, either.

[0003] It was not known at all that the color nonuniformity and melanin's existence condition in an application site serves as a factor as a user's property for on the other hand choosing suitable whitening cosmetics. Therefore, it was not known at all by using such a parameter that the whitening cosmetics which suited the individual can be chosen, either.

[0004]

[Problem(s) to be Solved by the Invention] This invention is carried out the sake such under a situation, and let it be a technical problem to offer the approach of choosing suitable whitening cosmetics objective and easily.

[0005]

[Means for Solving the Problem] this invention persons came to complete a header and invention for the ability of such selection to accomplish by making to melanin's existence be a condition, to whitening be the force with the color nonuniformity of the skin suitable for makeup cosmetics, and to be very closely related into a header, and making this into an index, as a result of searching for the approach of choosing suitable whitening cosmetics objective and easily in view of such a situation and stepping up research efforts wholeheartedly. Hereafter, explanation is added to a detail focusing on the gestalt of operation about this invention.

[0006]

[Embodiment of the Invention] (1) Although the existence condition melanin in the horny layer of melanin is coloring matter which exists in epidermal tissue, the existence gestalten differ variously. If it carries out to the comparison of melanin which has this versatility's existence gestalt with the following

criteria, for example, since the classification which suited quite ecologically can be performed, it is desirable. That is, it is facing classifying a melanin's existence condition and using biaxial [ of the abundance in a keratin cell, and the heterogeneity which made variation in existence the index ]. Many approaches are already learned in technique and differentiation of a such melanin's existence condition should just use them. However, the most desirable approach is a method of extracting a keratin cell on an adhesion disk, imprinting this on transparence adhesive tape, and dyeing this by the silver nitrate and the gentian violet which this invention persons devised. Namely, after it processed the collected sample for 10 minutes and it carried out the argentation 45 degrees C using the silver stain solution which trickled aqueous ammonia into 0.5% of silver-nitrate water solution, and adjusted pH to 10, it was rinsed 3 times and processed with gentian-violet liquid 0.15% for 10 minutes. It is the approach of making rinse and dry this sample, slushing so that a part [ finishing / dyeing of a transparence silicone agent ] may be covered, and carrying a cover glass, considering as a sample, and carrying out microscope observation. Thus, both the measured abundance and the heterogeneity of existence of melanin have big effect to the observation impression of a melanin's existence condition, and that relation has been independent. namely, a whitening operation there is much abundance of melanin, and it is necessary for the skin to separate from the beautiful skin and for heterogeneity to also use the multiplex whitening mechanism by the whitening matter, so that it is large, become such the beautiful skin that there is also little abundance of melanin and there is little heterogeneity conversely, and according to whitening cosmetics -- it is less necessary That is, it can consider as an index by forming the abundance and heterogeneity of melanin in a horny layer into 1 shaft about the condition of melanin using a cube type model. Although it is very suitable to use this since it is easy to perform a judgment, forming a melanin's existence condition into 1 shaft, and considering as an index by other approaches, also belongs to the technical range of this invention. An example of said cube type model shaft is shown in drawing 1 . A melanin's existence condition can be clearly judged with this shaft so that this example may show.

[0007] (2) Let extent of the color nonuniformity of the skin be an index in the sorting by selection of the cosmetics of color nonuniformity this invention in addition to an above-mentioned melanin's existence condition. Like the badness of a melanin's existence condition, it happens as a cause, and it is the skin trouble which should be amended by cosmetics, such as whitening cosmetics, these both are improved, the abnormalities in production of melanin are begun, and the color nonuniformity of the skin can also serve as a foundation of the really beautiful white skin. A these melanin's existence condition and color nonuniformity are mutually-independent relation, and even when it is independent, they are these factors to a respectively suitable whitening operation. Selection of still more suitable whitening cosmetics can accomplish by combining these both. Sake [ to there being a background-element / macro-/ color nonuniformity / as for this, the melanin of a horny layer is mainly micro, and ], the contribution to the suitable whitening operation exertion is large. As this is shown in the after-mentioned example, multivariate analysis, then its load ratio serve as color nonuniformity 0.6-0.8 to the melanin's existence conditions 0.2-0.4 by the test. If the shaft over a suitable whitening operation is set up using this load, it will become the selection criterion of outstanding whitening cosmetics. Here, although it is evaluation of color nonuniformity, it can express as a numeric value by downloading to a computer by using the situation of a face as an image as that appraisal method, adding processing of binarization etc., searching for that distribution, or creating some standard faces of color nonuniformity, referring to this standard face, and judging that extent using the technique of computer morphing. Even if this numeric value is computed by the comparison with the standard face by the naked eye, that repeatability is very good and can be used as an objective numeric value. The example of the standard face of such color nonuniformity is shown in drawing 1 . The result of having judged the color nonuniformity of the face of the panelist trinominal elected at random by observer trinominal is shown in the next table 1 using this standard face. This shows that repeatability is high, even if it is such a differentiation means. Therefore, considering simple nature, it is desirable to judge color nonuniformity and to use as an index by such approach.

[0008]

[Table 1]

観察者	パネルー１	パネルー２	パネルー３
１	２	２	３
２	２	２	３
３	２	２	３

[0009] (3) Sorting by selection of the cosmetics of sorting by selection this invention of the cosmetics of this invention is characterized by making the melanin's existence condition and color nonuniformity in the keratin cell of the skin into an index. As shown in a postscript, the relation of the states of being of the beautiful skin and melanin and color nonuniformity is recurred at a ceremony written by  $=(\text{beauty of the skin})0.253 \times (\text{melanin's in keratin cell existence condition}) + 0.936 \times (\text{color nonuniformity of the skin}) + 1.354$ . That is, as shown also in this formula, a lustrous skin value can be mentioned by improving a melanin's existence condition and lessening color nonuniformity of the skin. Namely, those who are going to use whitening cosmetics compute this lustrous skin value, if this value is small, they will choose cosmetics with the more high whitening effectiveness, and if this lustrous skin value is large, they should just choose from the color nonuniformity of a melanin's existence condition and the skin the cosmetics which do not have the whitening effectiveness so much. Here, about a whitening agent, since side effects, such as facula, may be caused when the high cosmetics of a whitening operation are used unsuitably, that it is also required to choose the cosmetics of a suitable whitening operation must put into the head. The relation between this lustrous skin value and the whitening agent of the cosmetics to be used is about shown in Table 2. Suitable whitening cosmetics can be selected by choosing whitening cosmetics according to this table. Furthermore, it is also possible to add other selection evaluation shafts and to make still more detailed selection, and such selection also belongs to the technical range of this invention.

[0010] <Example of statistics processing> After processing for 10 minutes and carrying out the argentation of the 45 degrees C using the silver stain solution which extracted the keratin cell with the adhesion disc method, imprinted to adhesive tape, trickled aqueous ammonia into 0.5% of silver-nitrate water solution for this, and adjusted pH to 10 using 334 female panelists (16-71 years old of age) who extracted at random from the right cheek section, it rinsed 3 times and processed with gentian-violet liquid 0.15% for 10 minutes. This sample was rinsed and dried, it slushed so that a part [ finishing / dyeing of a transparence silicone agent ] might be covered, and the cover glass was carried, and it considered as the sample, and microscope observation was carried out, in accordance with the criteria shown in drawing 1, the score of 1 (bad)-5 (good) was attached, and the melanin's existence condition was evaluated. moreover, use the standard face of color nonuniformity shown in drawing 2 created by morphing using the special panelist -- the score of 1 (bad)-5 (good) was attached, and the condition of nonuniformity was evaluated. Moreover, on the whole, from the impression, the score of 1 (it is not beautiful)-5 (beautiful) was attached, and the beauty of the skin was evaluated. When these were applied to the multiple regression analysis, it turned out that it has recurred at a ceremony written  $0.6617$  with a coefficient of multiple correlation  $=(\text{beauty of the skin}) 0.253 \times (\text{melanin's in keratin cell existence condition}) + 0.936 \times (\text{color nonuniformity of the skin}) + 1.354$ . The melanin's [ in / in the standard regression coefficient at this time / a keratin cell ] existence condition was  $0.198$ , and color nonuniformity was  $0.590$ . That is, becoming color nonuniformity  $0.6-0.8$  breaks the load ratio to the melanin's existence conditions  $0.2-0.4$ . If the beauty of whenever [ color tone / which was computed according to this contribution / favorable ], and the skin is plotted, as shown in drawing 3, it will recur at a straight-line ceremony of  $=(\text{beauty of the skin})0.8961 \times (\text{whenever [ color tone favorable ]}) + 1.5095$ .

[0011]

[Table 2]

実施ステージ	使用化粧料の美白成分
1	ハイドロキノン誘導体、アスコルビン酸誘導体、ソウハクヒ等の美白生薬エキス
2	ハイドロキノン誘導体、ソウハクヒ等の美白生薬エキス ローヤルゼリー
3	アスコルビン酸誘導体、ソウハクヒ等の美白生薬エキス ローヤルゼリー
4	ソウハクヒ等の美白生薬エキス、ローヤルゼリー
5	ローヤルゼリー
6	紫外線吸収剤

[0012]

[Example] Although an example is shown below and explanation is further added to a detail about this invention, it cannot be overemphasized that this invention does not receive limitation only in these examples.

[0013] <Example 1> Six sorts of cosmetics shown below were created, and selection of the cosmetics doubled with the panelist was tried using the above-mentioned multiple-correlation relational expression. The formula of these cosmetics is shown below. Namely, this is divided into two groups using 50 female panelists who elected at random. According to the above-mentioned formula, one group computes whenever [ color tone favorable ], and is less than [ 1 or more ] 2, less than [ 2 or more ] 3, less than [ 3 or more ] 4, less than [ 4 or more ] 5, and 5 (the situation of color nonuniformity or melanin is so bad that a numeric value is low.) or more. It classified and cosmetics 1, 2, 3, 4, and 5 were chosen to each, and although the one remaining group computed whenever [ color tone favorable ], it passed all the members cosmetics 3. I had these cosmetics used for three months, respectively, whenever [ color tone favorable ] was measured after use, whenever [ color tone favorable / before use ] was reduced, and the color tone improvement factor was computed. When this color tone improvement factor was averaged for every group, the group which used only cosmetics 3 to the group chosen according to the sorting by selection of this invention having been 1.53 was 0.86. With the sorting by selection of the cosmetics of this invention, individual correspondence of whitening cosmetics is possible and this shows that the cosmetics for which were suitable can be chosen. .

[0014]

(Cosmetics 1)

A glycerol 3 Weight section 1,3-butanediol 5 Weight section ethanol 10 Weight section arbutin 0.5 weight section ascorbic-acid phosphoric acid 2 magnesium 0.1 weight section Mulberry bark extractives 0.3 weight sections methylparaben 0.1 weight \*\*\*\* 81 Weight section [0015]

(Cosmetics 2)

A glycerol 3 Weight section 1,3-butanediol 5 Weight section ethanol 10 Weight section arbutin 0.5 weight section royal jelly 0.1 weight section Mulberry bark extractives 0.3 weight sections methylparaben 0.1 weight \*\*\*\* 81 Weight section [0016]

(Cosmetics 3)

A glycerol 3 Weight section 1,3-butanediol 5 Weight section ethanol 10 Weight section royal jelly 0.1 weight section ascorbic-acid phosphoric acid 2 magnesium 0.1 weight section Mulberry bark extractives 0.3 weight sections methylparaben 0.1 weight \*\*\*\* The 81.4 weight sections [0017]

(Cosmetics 4)

A glycerol 3 Weight section 1,3-butanediol 5 Weight section ethanol 10 Weight section royal jelly 0.1

weight section Mulberry bark extractives 0.3 weight sections methylparaben 0.1 weight \*\*\*\* The 81.5 weight sections [0018]  
(Cosmetics 5)

A glycerol 3 Weight section 1,3-butanediol 5 Weight section ethanol 10 Weight section royal jelly 0.1 weight section Mulberry bark extractives 0.3 weight sections methylparaben 0.1 weight \*\*\*\* The 81.5 weight sections [0019]

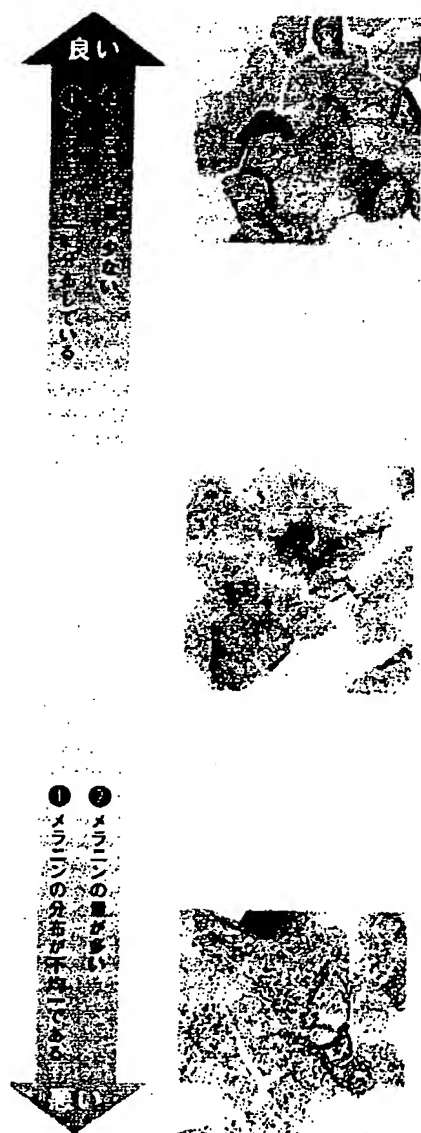
[Effect of the Invention] According to this invention, the approach of choosing cosmetics, such as suitable whitening cosmetics, objective and easily can be offered.

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[Translation done.]

Drawing selection drawing 1 ▼

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[Translation done.]

Drawing selection drawing 2 ☒

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1  
(著しい色ムラ)



3  
(くすみ)



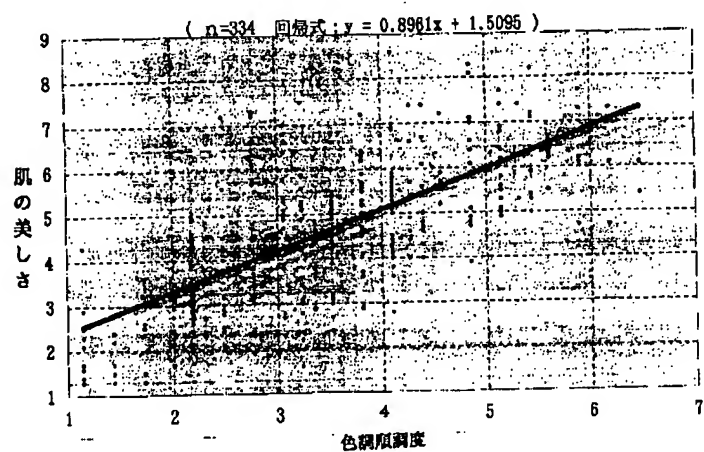
6  
(美しい肌)



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[Translation done.]



Drawing selection ☒ drawing 3

[Translation done.]